

FCC Appendix RF Test Data for BLE

FCC ID : 2BX54-ZH172

Company : ShenZhen YiChuangWeiLai KeJiYouXianGongSi

EUT : Sunrise Alarm ClockORB300S

Model Number : ZH172

Report No. : CTA26082500101

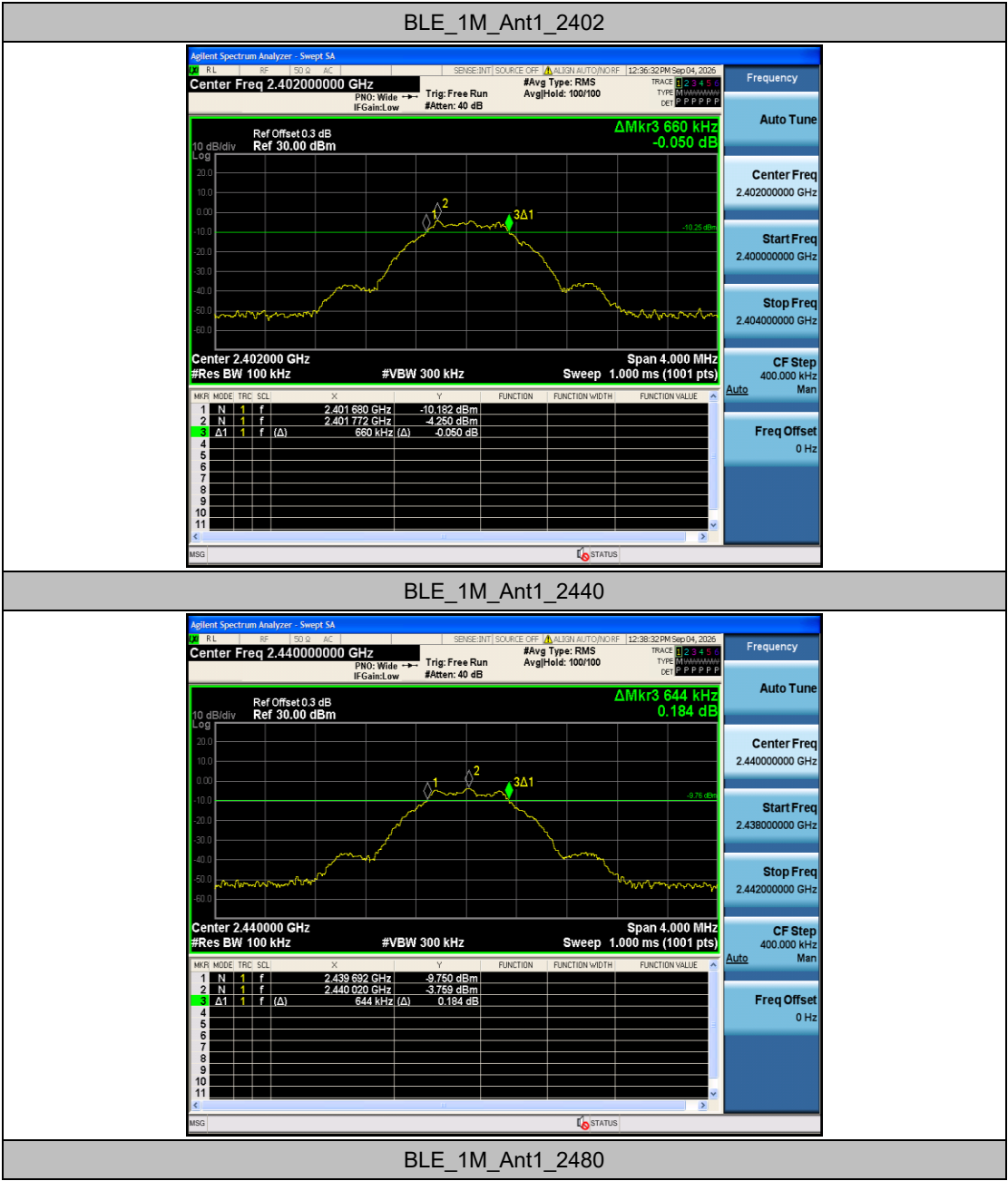
Reviewed By : Eric Wang

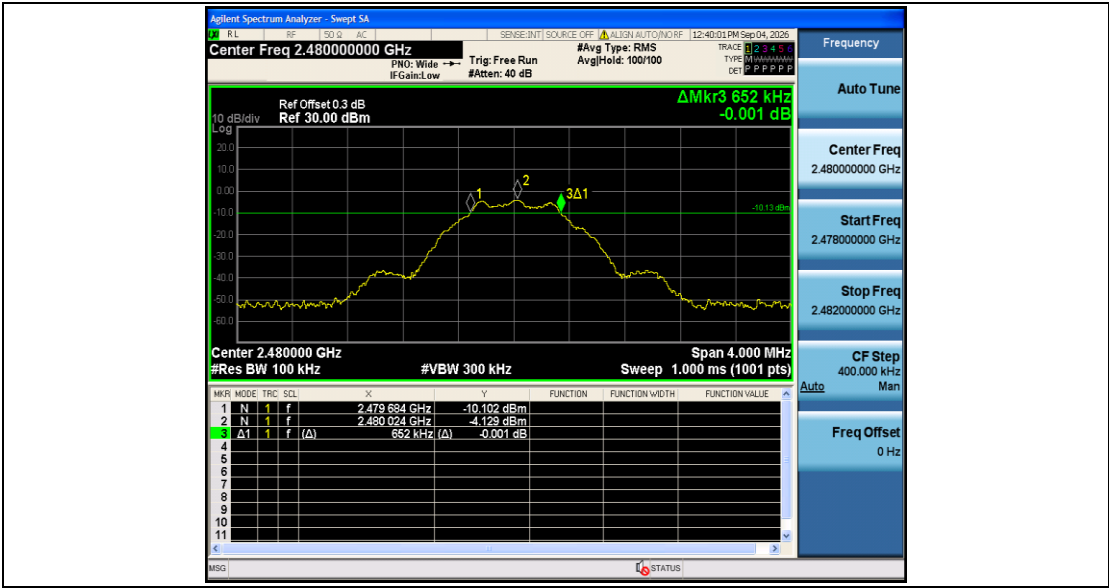
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.680	2402.340	0.5	PASS
		2440	0.644	2439.692	2440.336	0.5	PASS
		2480	0.652	2479.684	2480.336	0.5	PASS

Test Graphs



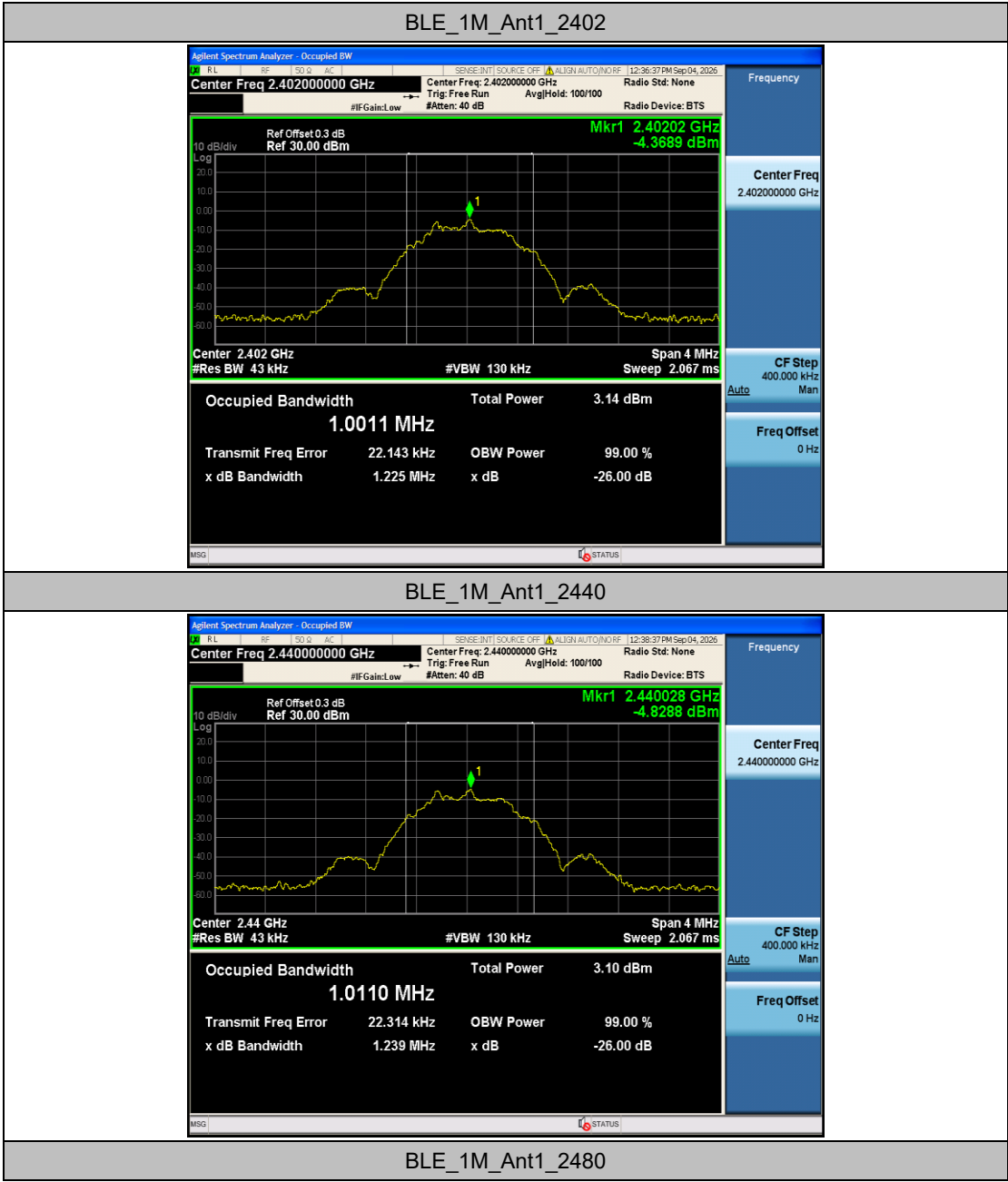


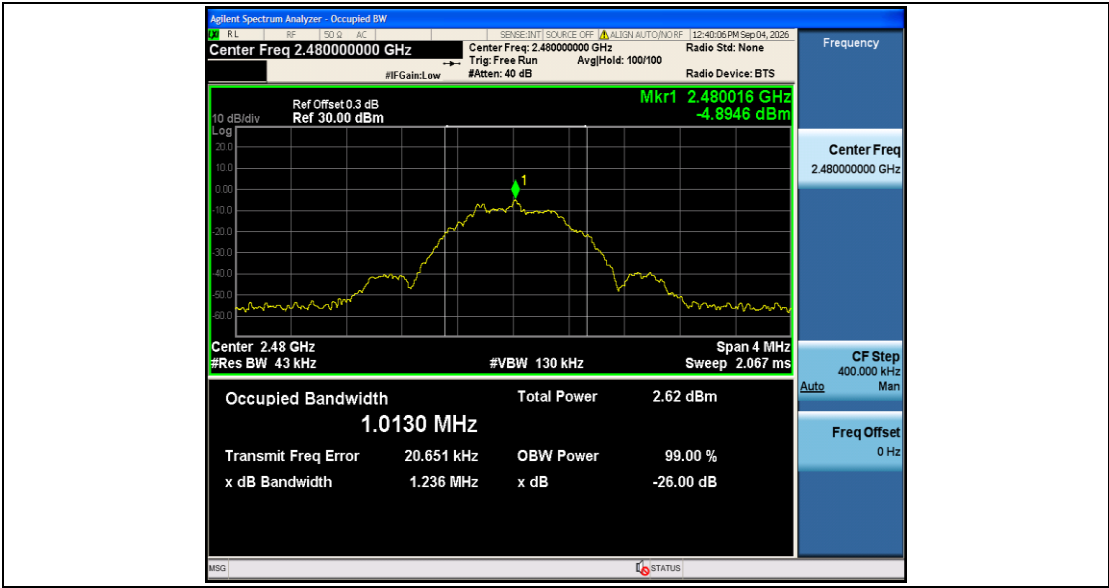
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0011	2401.5216	2402.5227	---	---
		2440	1.0110	2439.5168	2440.5278	---	---
		2480	1.0130	2479.5142	2480.5272	---	---

Test Graphs





Appendix C: Maximum conducted output power

Test Result Peak

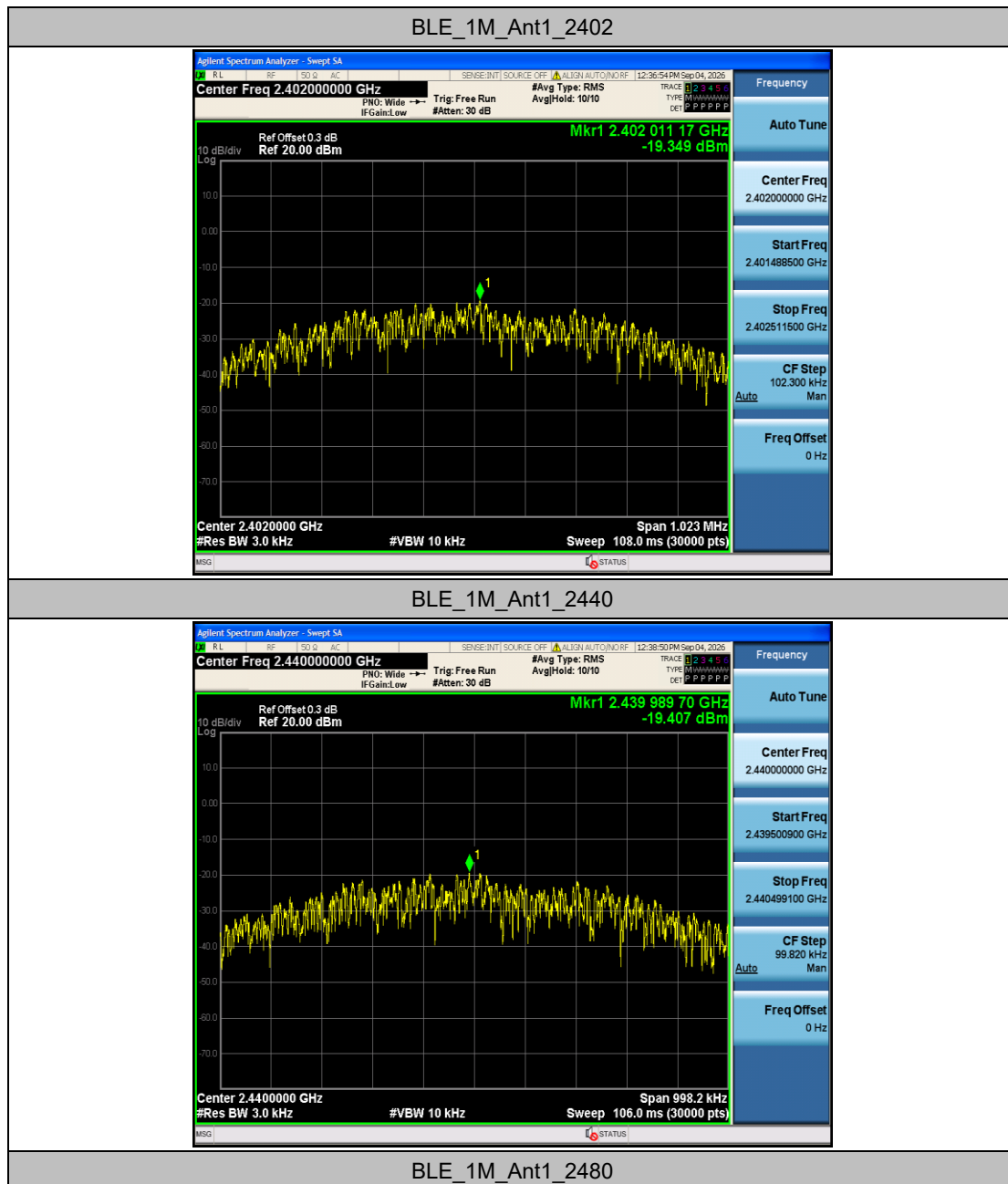
TestMode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.57	≤30	PASS
		2440	-3.63	≤30	PASS
		2480	-3.93	≤30	PASS

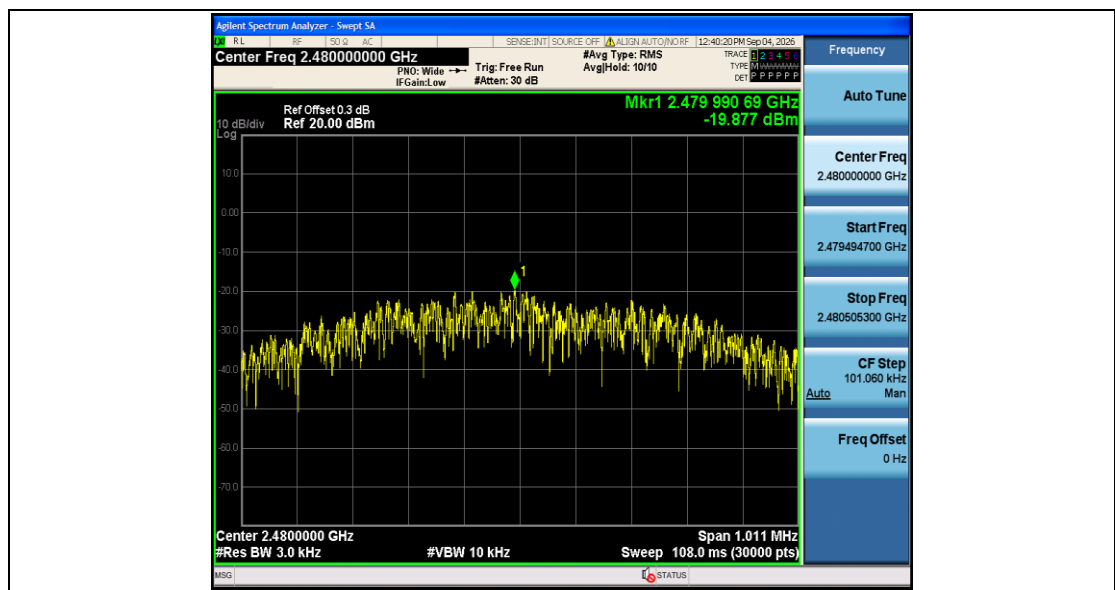
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-19.35	≤8.00	PASS
		2440	-19.41	≤8.00	PASS
		2480	-19.88	≤8.00	PASS

Test Graphs



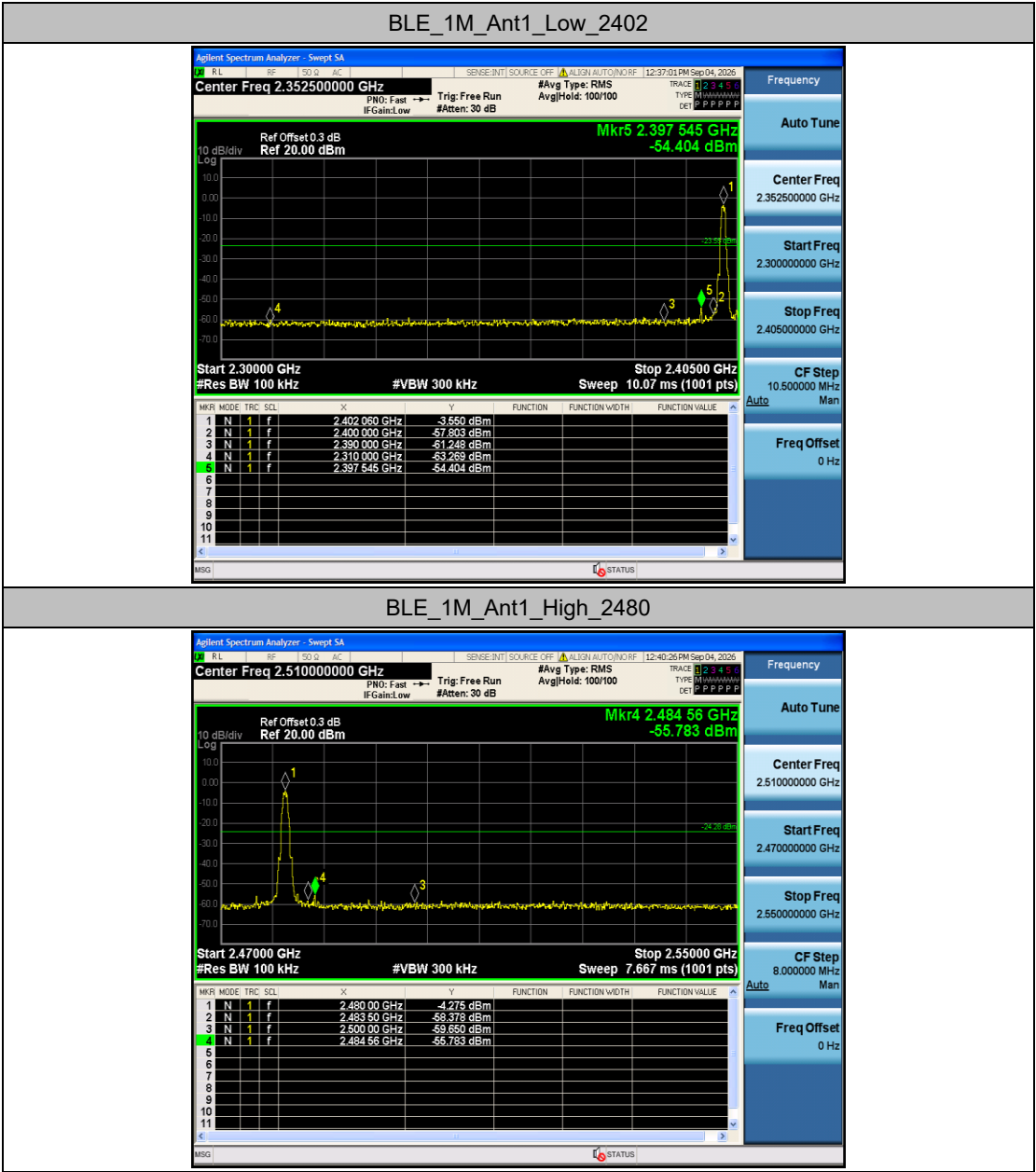


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	Channel	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.55	-54.4	≤-23.55	PASS
		High	2480	-4.28	-55.78	≤-24.28	PASS

Test Graphs

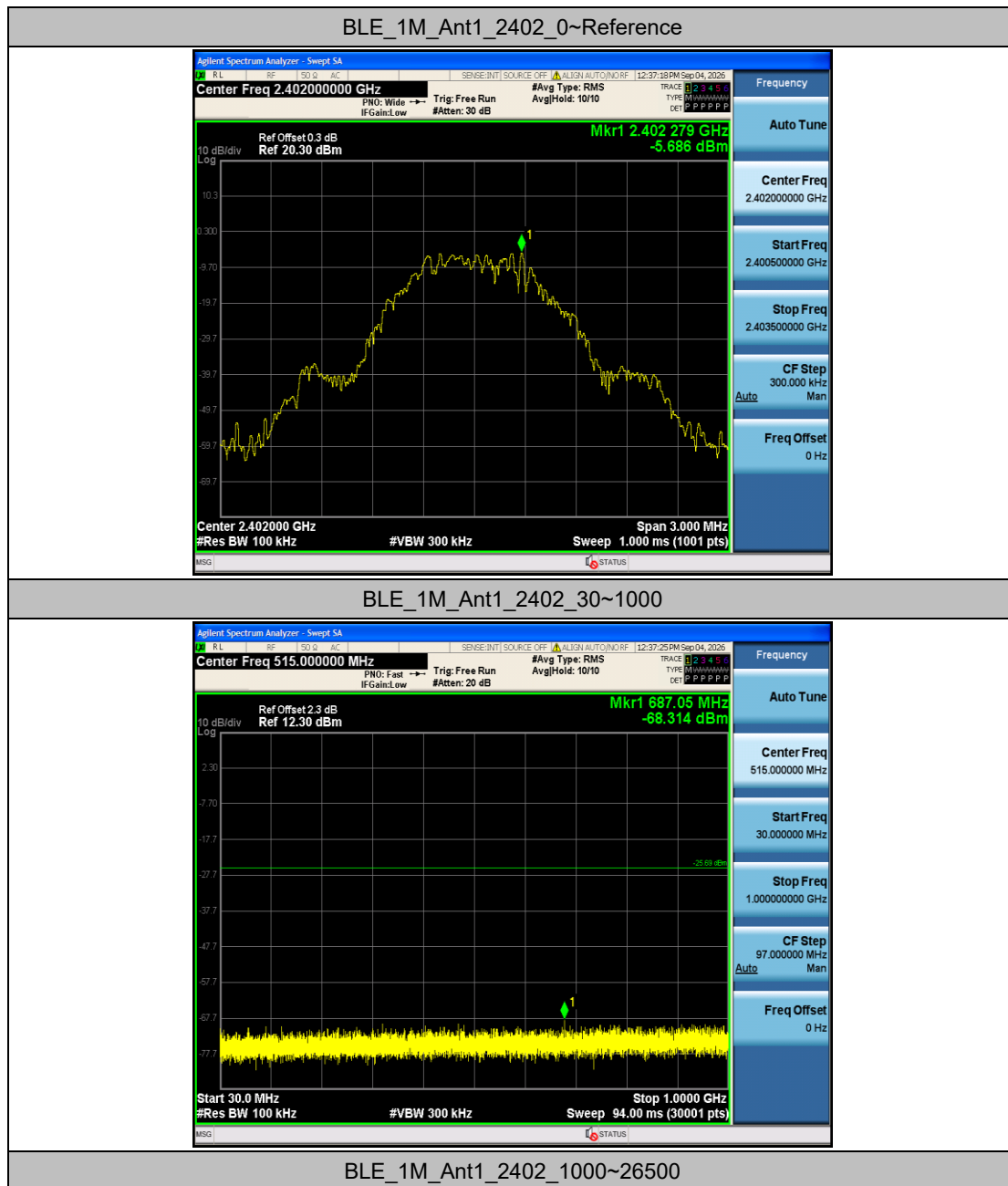


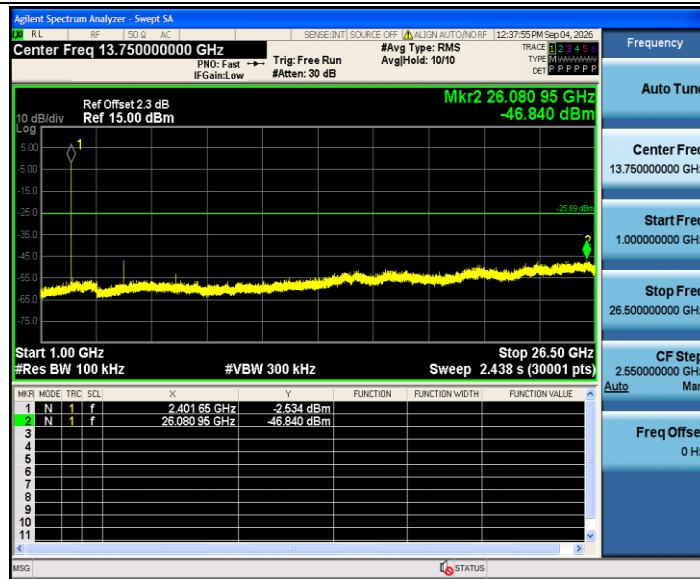
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.69	-5.69	---	PASS
			30~1000	-5.69	-68.31	≤-25.69	PASS
			1000~26500	-5.69	-46.84	≤-25.69	PASS
		2440	Reference	-5.19	-5.19	---	PASS
			30~1000	-5.19	-68.24	≤-25.19	PASS
			1000~26500	-5.19	-45.3	≤-25.19	PASS
		2480	Reference	-6.00	-6.00	---	PASS
			30~1000	-6.00	-68.48	≤-26	PASS
			1000~26500	-6.00	-46.41	≤-26	PASS

Test Graphs

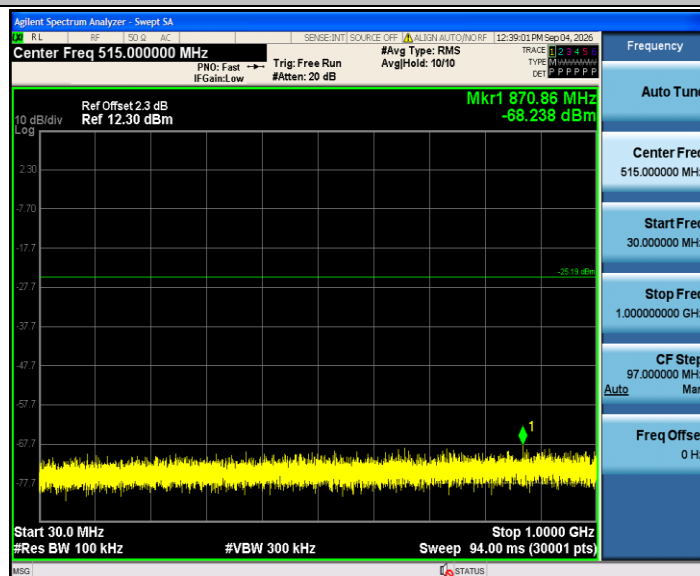




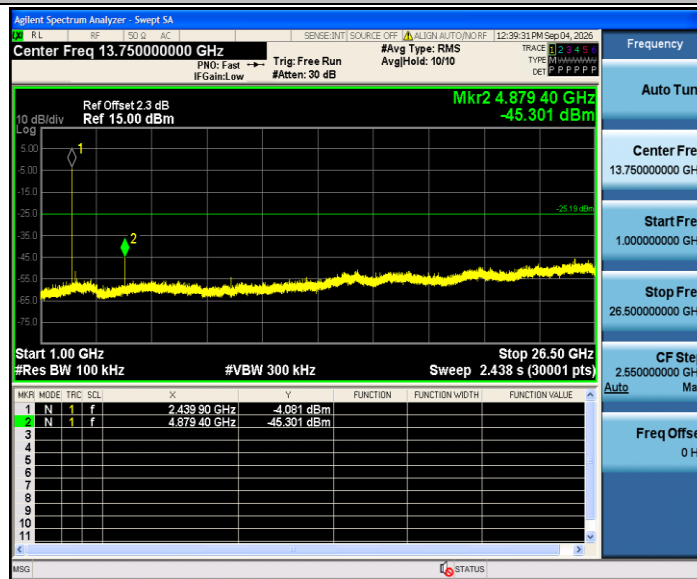
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



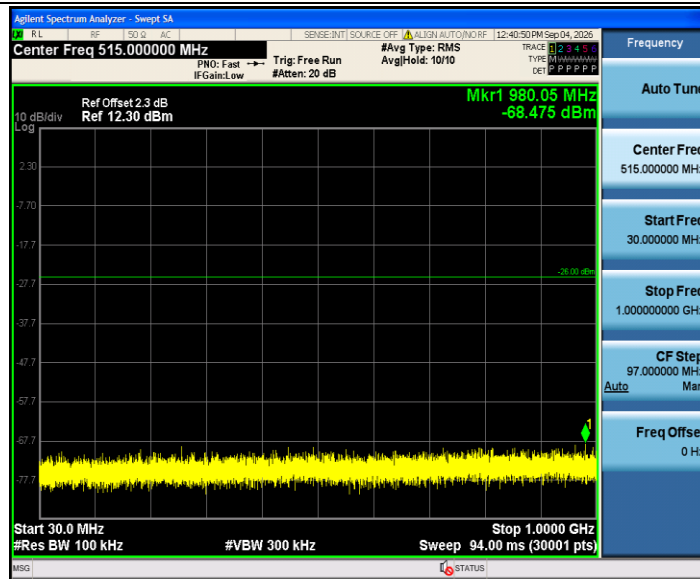
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

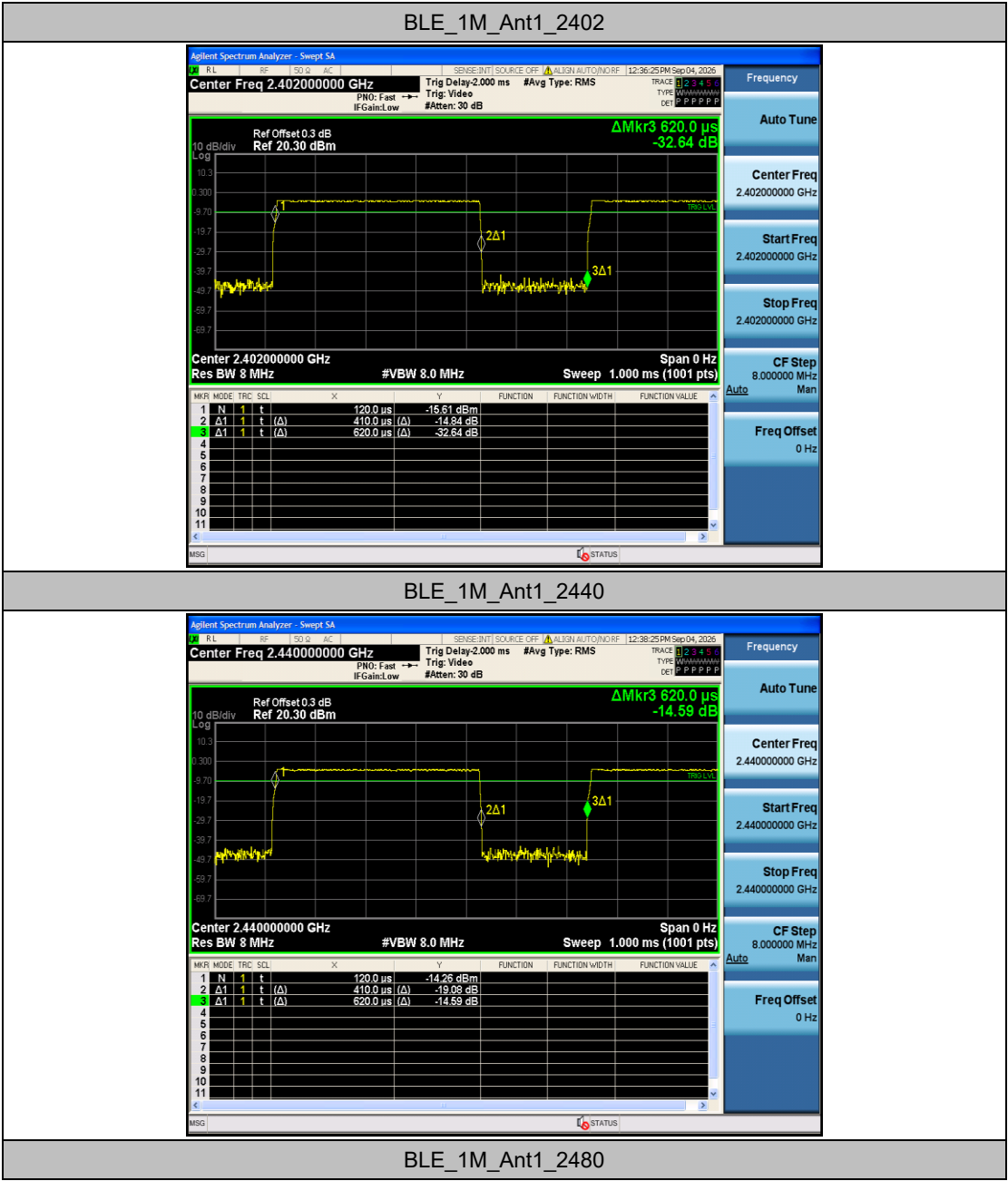


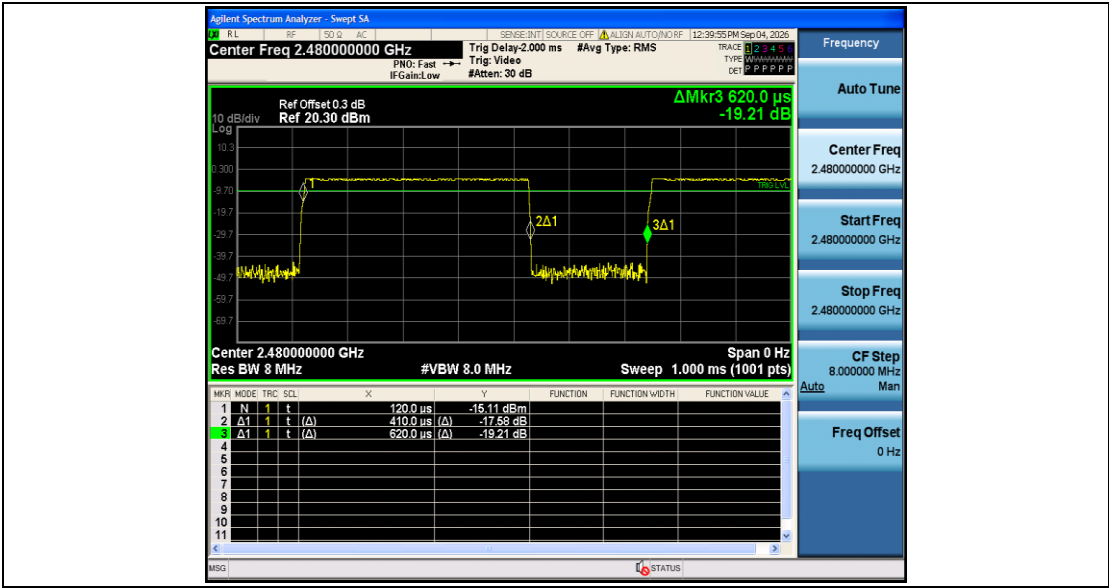
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.62	0.6613	66.13	1.80	---	---
		2440	0.41	0.62	0.6613	66.13	1.80	---	---
		2480	0.41	0.62	0.6613	66.13	1.80	---	---

Test Graphs





Appendix H: Emissions in Restricted Bands

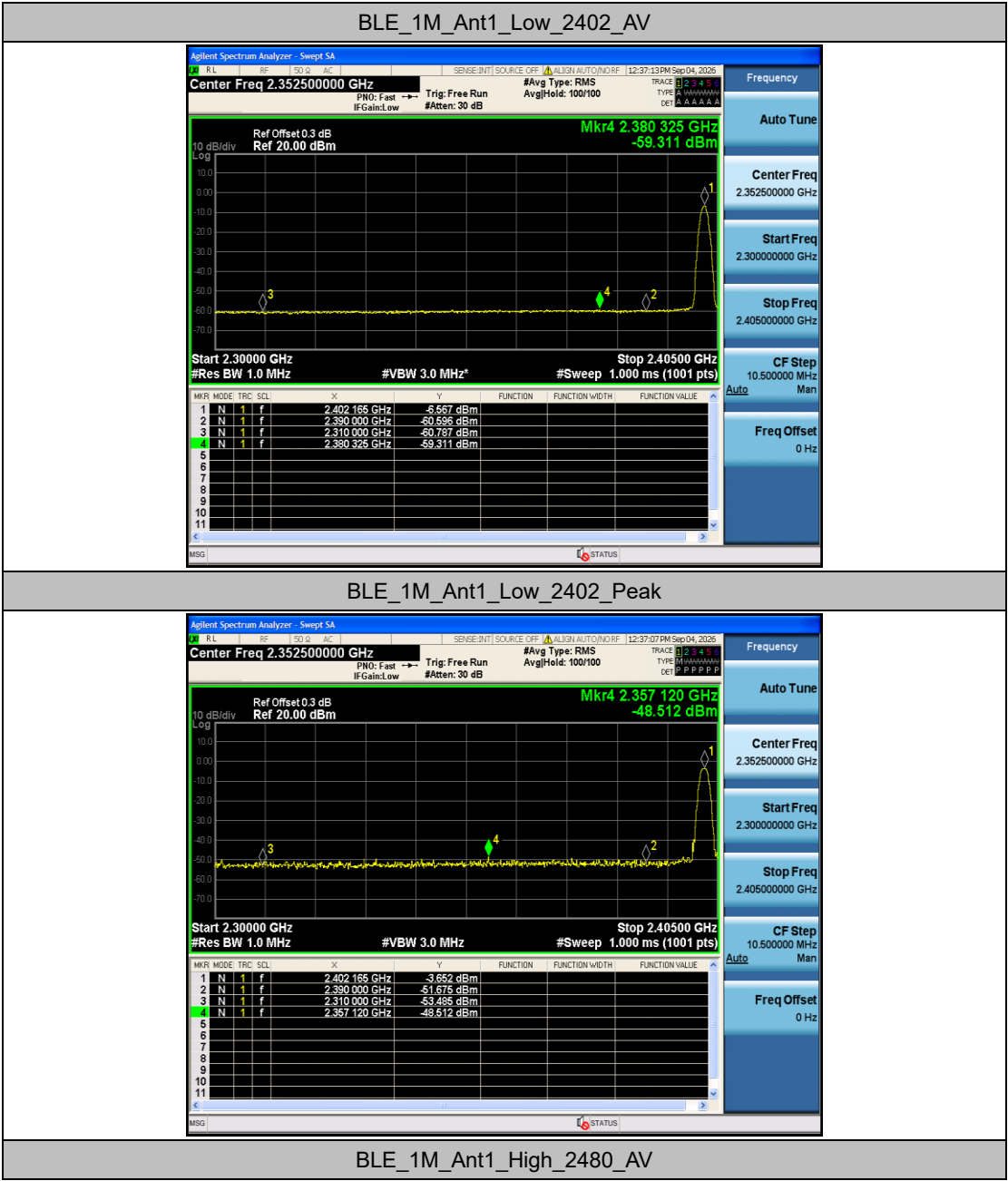
Test Result

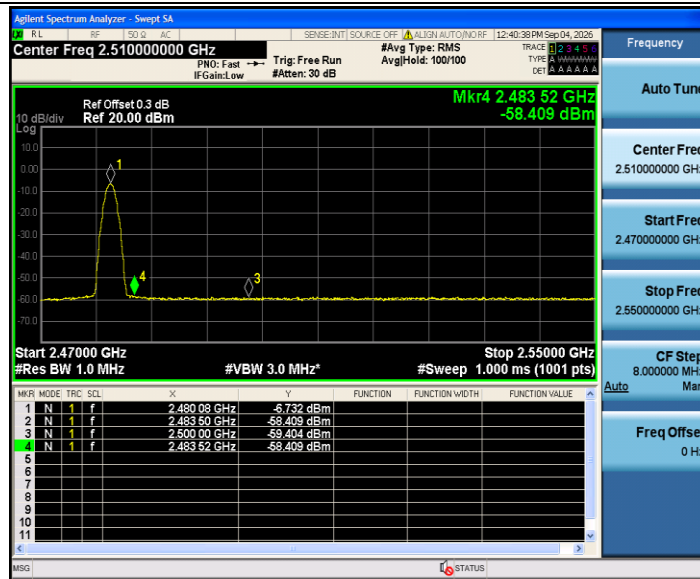
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.79	2.499	1.80	38.709	≤54	PASS
				AV	2380.325	-59.31	2.499	1.80	40.189	≤54	PASS
				AV	2390.000	-60.6	2.499	1.80	38.899	≤54	PASS
				Peak	2310.000	-53.49	2.499	0.00	44.209	≤74	PASS
				Peak	2357.120	-48.51	2.499	0.00	49.189	≤74	PASS
				Peak	2390.000	-51.68	2.499	0.00	46.019	≤74	PASS
		High	2480	AV	2483.500	-58.41	2.499	1.80	41.089	≤54	PASS
				AV	2483.520	-58.41	2.499	1.80	41.089	≤54	PASS
				AV	2500.000	-59.4	2.499	1.80	40.099	≤54	PASS
				Peak	2483.500	-50.8	2.499	0.00	46.899	≤74	PASS
				Peak	2484.720	-46.37	2.499	0.00	51.329	≤74	PASS
				Peak	2500.000	-50.73	2.499	0.00	46.969	≤74	PASS

Note:

The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs





BLE_1M_Ant1_High_2480_Peak

